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ABSTRACT

The Computer Technology Project is a collaborative inservice/staff development project with a major goal of familiarizing school administrators, staff, and students with computers and their applications. The participating systems are Fitchburg State College, the Shirley Public School System, and the Lunenburg Public School System. The five-phase program extends over a three-year period and is funded by the Massachusetts Board of Regents of Higher Education. Year one, Phases I and II, involved the administration of pre- and posttests to all staff members in order to measure their knowledge, skills, and attitudes toward computers. Based on the analysis of pre-assessment data, levels of training were determined and implemented. Year two, Phases III and IV, involved implementing the project developed in the first year, including a basic computer literacy program for all students. The goal of the third year, Phase V, is the refinement of the computer management system and the expansion of software resources to meet the needs of low incidence groups. These groups include special education students in the mainstream and in the resource room, students identified as talented and gifted, and students from minority and multi-ethnic backgrounds. The document concludes with pre-posttest assessment forms for the first two years of the program. (Author/CB)

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ED268115

"A Collaborative Computer Technology Project"

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SP 027 471

ABSTRACT

The major goal of the in-service / staff development program is to familiarize the Shirley and Lunenburg school administrators, staff, and students with computers and their applications. The five phase program extends over a three year period. The project is funded by the Massachusetts Board of Regents of Higher Education.

Year One, Phases I and II, involved the administration of pre and post tests to all staff members in order to measure their knowledge, skills, and attitudes toward computers. Based on the analysis of pre assessment data, levels of training were determined. Teachers participated in appropriately designed seminars, workshops, and consultation sessions enabling them to understand the implications of computer technology in education, to evaluate software, and to integrate it into existing curricula areas. Participating staff members formed teams to work on selected tasks related to hardware and software management, cataloging, and curricula revision and development. Objectives were met by completing two, three credit graduate courses in Computer Technology. They are ED 973, Implications of Computer Technology in Education and ED 974, Computers in the Classroom. The courses were developed by the public school liason staff, graduate faculty and a knowledgeable public school teacher who was also a member of the college graduate adjunt faculty.

Year Two, Phases III and IV, involved implementing the projects developed in the first year, including a basic computer literacy program for all students. Teachers participated in seminars, workshops, and received consultation services on location. Participating teachers received three graduate credits for ED 981, Project in Educational Technology.

The goal of Year Three, Phase V, is the refinement of the computer management system and the expansion of software resources to meet the needs of low incidence groups. These groups include special education students in the mainstream and in the resource room, students identified as talented and gifted, and students from minority and mulit-ehtnic backgrounds. The development of these programs necessitates the utilization of newly acquired knowledges and skills and allows for the creative and effective use of computer technology in the school setting.

1. BACKGROUND

A. THE SETTING

The collaborative Computer Technology Project is an inservice/ staff development project among three systems: Fitchburg State College, the Shirley Public School System, and the Lunenburg Public School System. The project is funded through a grant awarded by the State Board of Regents of Higher Education of Massachusetts.

Fitchburg State College is located in North Central Massachusetts in the city of Fitchburg. It is one of the colleges in the State College System that offers both bachelor's and masters degrees. The undergraduate population of the college is approximately 4,000 students and the graduate level programs have approximately 1,000 masters candidates. The departments of the college that are involved in this grant project are Special Education and Computer Science. The Special Education Department has been providing graduate and undergraduate training for thirty years. Both bachelor's and masters programs are offered in the Computer Science Department. The towns of Shirley and Lunenburg are within commuting distance of the college.

The town of Shirley is geographically located next to Fort Devens, Massachusetts. The small school system services the children from the predominately blue collar community as well as some military dependents. There are two schools in the system: the Center School which houses the kindergarten and the Lura A. White School which services students in grades one through eight.

There is no high school in the town; the students are tuitioned to Ayer High School or the Nashoba Regional Vocational Technical School. The population of the town's school system, not including high school students, is approximately four hundred and fifty students. They are serviced by an educational and administrative staff of approximately 45.

The town of Lunenburg is adjacent to the city of Fitchburg, Massachusetts. It also borders the town of Shirley. It is of comparable size with Shirley, although it is a predominately middle class community with a higher tax base for school funding. There are approximately one thousand students in the system's three schools: the Passios Elementary School, the Turkey Hill Middle School and the Junior/Senior High School. The educational and administrative staff involved in this project is approximately fifty, as it includes only the grammar schools.

B. NEEDS ASSESSMENT

The opportunity to receive grant monies from the State Board of Regents of Higher Education for collaborative projects came to the attention of an associate professor at Fitchburg State College. This professor then contacted a staff member in the Shirley system, with whom previous collaborative staff development projects had been planned and completed. This staff member and the principal-superintendent of Shirley then met to discuss the specifics of such a project. The principal-superintendent was supportive of the idea for a staff development program and requested a survey of specific staff needs.

The results of the survey indicated staff development in computer technology as the highest priority. Shirley was just beginning to have computers available within the system and staff was not trained in this area. Current research identifies inexperienced teachers as a major problem in the implementation of computers in education.[1] For all of these reasons, the "Collaborative Computer Technology Project" was written. The grant was awarded funding and was scheduled to begin in September 1984.

C. INVITATION TO LUNENBURG

When the project was scheduled to begin in September, 1984, the computers had not arrived in Shirley. The college director of the project arranged for Shirley to use the computers in the Lunenburg School System in exchange for allowing the staff there to participate in the project. The administration of both systems were supportive and Lunenburg was incorporated into the project from that time forward. The two subsequent refunding proposals have included the Lunenburg system.

2. THE MODEL

A. CRITERIA FOR METHODOLOGY

The Collaborative Computer Technology Project was designed as a three year, five phase project. The first year saw the completion of the first two phases with six graduate credits offered to those participating. This year, phases three and four each carry three graduate credits. Course requirements interface with the school's educational objectives for computers in education. These objectives include: the development of a trained staff, the evaluation and ordering of software, the development of a software library, administration of computer hardware and software, integration of

software into the curriculum, and the implementation of student literacy projects. The model for service delivery being used during this second year includes: lectures, seminars, readings and discussions, "hands on" practice sessions, consultation, team projects and feedback sessions. Scheduling allows for adequate time to complete readings, practice sessions, and group tasks between workshops. Teachers are given a choice of various assignments, selection of workshops to attend, and choice of team projects. This format was selected based upon staff input, as well as research and experience in conducting effective staff development programs.

B. PLANNING TEAM CONCEPT

Since its inception, the grant project has had a Planning Team to monitor progress and deal with ongoing organizational and management issues. In order to provide maximum input, the Team was increased in size during this second year of the project. The members are: 1) the College Project Director who is an Associate Professor at Fitchburg State College, 2) the Project Coordinator who is a staff member from the Shirley School System, 3) the Lunenburg Project Coordinator who is a staff member of the Lunenburg System, 4) and two teacher representatives, one from Shirley and one from Lunenburg. The teacher members function as liasons between the project participants and the Planning Team. It is important to note here that there is a crossmembership between the Planning Team Members and each system's Computer Committees which make the decisions related to the implementation of computer technology in the systems.

This ensures that the goals of both groups interface. Decisions made the the Planning Team in addressing the organizational problems in the project are funneled through the Computer Committees and are subject to final approval by the college and school administrators involved.

The members of the Planning Team were selected based upon their positions in the systems, their knowledge of the use of computers in education, their open and positive professional relationships with the staff in both systems and, their willingness to participate as team members.

C. SLIDE TAPE

3. YEAR ONE SUMMARY: PHASES ONE AND TWO

A. GOALS AND METHODOLOGY

(Wall chart will correlate goals, methodology and research criteria.)

(For chart-Research on staff development has defined key components for successful staff development programs. These include school based programs with teachers actively involved;[2] teachers being provided with a choice of activities;[3] a series of training sessions separated by at least one week intervals;[4] and methods of presentation which include: information, demonstration, practice, feedback and coaching or peer observation.[5] Additional factors effecting the success of staff development programs are support from administration[6] and teacher involvement in the planning process.[7]

B. SYLLABI

(Copies of ED973 and ED974 will be available.)

4. YEAR TWO SUMMARY: PHASES THREE AND FOUR

A. GOALS AND METHODOLOGY

(Wall chart will correlate goals, methodology and research criteria.)

B. SYLLABUS

(Copies of ED981)

5. OUTCOMES

A. DIRECT

Direct outcomes include: 1) a core population of staff that is highly trained in computer technology in education: 2) curricula revision to include the integration of computer software in the basic skills curricula; 3) the adaption of the revised curricula for special populations such as: special education, Chapter 1 students, and the talented and gifted; 4) the implementation of the newly revised curricula; 5) implementation of a student computer literacy program; and 6) the development of a computer management and cataloging system for hardware and software.

B. INDIRECT

Indirect outcomes include: 1) positive effects on teacher moral in relation to computers in education; 2) high teacher enthusiasm and productivity in the integration of computers into the curricula; 3) maximized use of materials ordered through ongoing evaluation of software by the teachers; 4) objectivity and expertise in program planning and implementation from the collaboration with outside consultants; 5) enhanced professional relationships and high quality

communication among administrators and staff in the systems resulting from collaborative efforts in goal setting, team projects and cross membership in committees; and 6) the obvious benefits from addressing the basic skills curricula from a different perspective.

6. EVALUATION

A. QUALITATIVE

a. Who will plan the evaluation? [8]

The project Planning Team will plan for the evaluation. This team includes the Project Director, the Shirley Project Coordinator, the Lunenburg Project Coordinator, and two teacher representatives, one from each system.

b. What outcomes are anticipated?

It is anticipated that the goals of the project will all be met at the close of the third year.

c. How will these outcomes be measured?

1. Teacher Skills: Prior to and at the close of each year of the grant project, an assessment instrument is administered to the entire staff. This instrument measures: knowledge, strategies or skills applied and attitudes as they all relate to computer technology in education.[9] The results of last year's instrument were reported in percentage correct response change in the end of the year report for the State Board of Regents of Higher Education. The same procedure will be utilized this year. At the close of the third year of the project, these statistics will again be reported, as well as the other components of the evaluation described here.

Additionally, transcripts of teachers participating in the grant project for graduate credit will be tallied at the close of the third year. Also, numbers of teachers completing a certificate program or a masters degree in Computer Technology in Education will be calculated.

2. Student Skills: Ongoing team projects in Computer Literacy are assessing the level of student computer skill. Written and oral reports define accomplishments.

3. Computer Management: The management systems for computer hardware and software are currently being developed and assessed in team projects. Written and oral reports identify changes. Additionally, committees separate from the grant project which interface with the management goal co-monitor computer usage and placement.

4. Computers in the Curriculum: Team project participants are working on the integration of software into the curriculum. Written and oral curriculum reports are presented at the close of each school year.

d. How will unplanned outcomes be measured?

During the project observations on specific unplanned outcomes have been cited by both teachers and administration. These have included such things as teachers citing the positive aspects of sharing ideas between systems[10] and the superintendents expressing appreciation and support to the participants for their extensive efforts. A listing of these and similar unanticipated outcomes will be included in the final evaluation report.

e. Who will collect evaluation data?

Date will be collected by the Program Director and the Program Coordinators.

f. From whom will the information be collected:

The educational staff, project participants, Planning Team Members, the system's administration and school committees, students and parents will be contributors of information for evaluation. Direct and indirect measures as previously defined in the above sections will provide the date from these sources.

g. How will the information/data be analyzed?

The pre/post test instruments' scores will be reported and comparisons will be made based upon the results. Propositions about non-statistical data will also be formulated based upon comparisons from year to year.

h. How will the evaluation results be shared and used?

The report will be sent to the Board of Regents of Higher Education and to the superintendents and school committees in each system. The results of the report will be shared with the educational staff in both systems via staff meetings. Information provided in the report will enable future decisions related to the continuing integration of computers into the curriculum and staff development.

Additionally, the results of the project to this point and the staff development model being used are being presented here at the 1986 Association for Teacher Educators Conference: "Redesigning the Profession for the Future" to share and provide the opportunity for other professionals to examine the replicability of the model.

B. QUANTITATIVE

(Discussion of pre/post test instrument as related to direct and indirect outcomes. Data for year one, copies available. Copies of instrument for year two available.)

FOOTNOTES:

1 Pamela Dronka, "Computer Integration into Instruction is Stuck; Experts Blame Unclear Optimal Uses and Three Implementation Problems." ASCD Update, Vol. 27, No. 5 Summer 1985, p.1.

2 Beatrice M. Gudridge, Teacher Competency Problems and Solutions, American Association of School Administrators, 1980, p. 54.

3 Ibid., p. 55.

4 Georgea Mohlman Sparks, "Synthesis of Research on Staff Development for Effective Teaching," Educational Leadership, November 1983, p. 66.

5 Ibid.

6 Georgea Mohlman Sparks, "Synthesis of Research on Staff Development for Effective Teaching," Educational Leadership, November 1983, p. 66.

7 Ibid.

8 Fred H. Wood, Steven R. Thompson, and Sister Frances Russell, "Designing Effective Staff Development Programs," Staff Development/ Organizational Development, Association for Supervision and Curriculum Development, 1981, p. 68.

9 Daniel L. Duke and Lyn Corno, "Evaluating Staff Development," Staff Development/Organizational Development, Association for Supervision and Curriculum Development, 1981, p. 99-103. (The questions used in this section of the paper are paraphrased from this article.)

10 Ibid., #6, p. 67

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PHASE I

Goals & Objectives	Methodology
1. Biographies of contributors to technology	1. Readings, lectures & demonstrations
2. Evolution of computers	2. Readings, lectures & demonstrations
3. Impact of computers	3. Readings, lectures & demonstrations
4. Futuristic view of computers	4. Readings, lectures & demonstrations
5. Uses of computers in education	5. Readings, lectures & demonstrations, on-site visitations & observations, "hands on" use of software practice with feedback
6. Development of unit around software programs to address curricula objectives	6. Readings, lectures & demonstrations, on-site visitations & observations, "hands on" use of software practice with feed back

CRITERIA

Teacher involvement
Adminstrative support
School based
Active involvement
Training sessions @ intervals
Presentation: information
demonstration
practice
feedback

PHASE II

Goals & Objectives	Methodology
1. Classify software	1. Readings, lectures & demonstrations, on-site visitations & observations, "hands on" use of software practice with feedback & peer observation
2. Evaluate software	2. Readings, lectures & demonstrations, on-site visitations & observations, "hands on" use of software practice with feedback and peer observation
3. Use word processings	3. Readings, lectures & demonstrations, on-site visitations & observations, "hands on" use of software practice with feedback and peer observation
4. Word processing in curriculum	4. Reading, on-site visitation & observations, "hands on" use of software practice with feedback and peer observation
5. Computer Management System	5. Readings, on-site visitations & observations, "hands on" use of software practice with feedback and peer observation, team work
6. Computer Literacy Program	6. Readings, on-site visitations & observations, "hands on" use of software practice with feedback and peer observation, team work
7. Computer Integration into Curriculum	7. Readings, on-site visitations & observations, "hands on" use of software practice with feedback and peer observation, team work

CRITERIA

Teacher involvement in planning
Administrative support
School based
Active involvement
Training sessions @ intervals
Presentation: information
demonstration
practice
feedback
peer observation

PHASE III/IV

Goals & Objectives	Methodology
1. Proficiency in Word Processing, Teacher Utilities, Logo, Basic, Curriculum Software	1. Readings, lectures & demonstrations, on-site visitations & observations, "hands on" use of software practice with feedback, peer tutoring
2. Computer Management System	2. Readings, on-site visitation & observations, "hands on" use of software practice with feedback, team work
3. Computer Literacy Program	3. Readings, on-site visitations & observations, "hands on" use of software practice with feedback, team work
4. Computer Integration into Curriculum	4. Readings, on-site visitation & observations, "hands on" use of software practice with feedback, team work

CRITERIA

Teacher involvement in planning
Administrative support
School based
Active involvement
Training sessions @ intervals
Presentation: information
demonstration
practice
feedback
coaching
peer observation

ED 973 Implications of Computer Technology
in Education

Course Description:

Students examine the use of computers by individuals and groups in the "information age" and changes demanded of the educational system. Major developments related to the history of the computer as well as future possibilities offered by the computer are addressed.

Target Population: Shirley Public School Teachers/Administrators

Course Objectives:

1. After studying assigned reading and attending lectures, the students will, working in groups of 3, write beographical sketches of 6 individuals who have made signigicant contributions to computer technology consequently effecting all of our contemporary lives.

2. Given lecture materials the students will be able to discuss the evolution of computer generations from "the tube to the chip".

3. Given outside readings and lecture materials the students in teams of 3 will demonstrate their knowledge of the impact of computer technology in contemporary society by identifying on paper on 10 ways their lives have been effected by the computer age.

4. After viewing required media presentations the students will, in teams of 3, demonstrate their understanding of a futuristic view of a computerized society by creating a visual product depicting an aspect of life in that society.

5. Given assigned outside readings and on-site visitations the students will see computers used in the different ways. These ways include administrative, computer aided instruction, computer science/programming, subject tutorial and remediation, curriculum enhancement, and as free time-reward motivator.

Course Requirements:

Participate in all class sessions (missed computer time must be made up)	20%
3 written/graphic products	30%
Write and implement a unit utilizing a software program addressing curricula objectives. These units will be shared with colleagues and catalogued in the computer resource center.	50%

Michele Morin Zide, Ed.D.
Jane Murray, M.Ed.

ED 974 Computers in the Classroom

Course Description:

Students explore the use of the computer as a tool, a tutor, and a tutee. Analysis of the computer for instructional purposes including evaluation of software, writing, testing, assignments, and record keeping is made. Issues such as peer tutoring, cultural and sexual differences in the use of the computer and classroom management of computer time are discussed. Authoring systems and commercially available software are used.

Target Population: Shirley Public School Teachers/Administrators

Course Objectives:

1. Given a variety of software, teachers will examine each piece and describe how each could be used within a range of classifications such as drill and practice, tutorial (instructional), simulation, games, and utilities.

2. Given a minimum of 20 pieces of software teachers will evaluate each piece utilizing a 25 item form describing elements of the software and potential utilization functions.

3. Given a word processing program teachers will appropriately utilize the program its functions by correcting a prescribed text.

4. Word processing programs will be used as a base for creating alternative uses within the language arts curriculum.

5. Teachers/Administrators will design a system for use of the computers within the Lura A. White School.

6. A team of teachers will design and implement a computer literacy course for a targeted group of the public school students.

7. A team of teachers will serve on the math, science, reading-language arts, social studies curricula committees suggesting how purchased software programs integrate in each of these curricula areas.

Course Requirements:

Participate in all class sessions	20%
Completed software categorization cards	20%
Completed software evaluation forms	20%
Plan for the integration of a word processing program in language areas or other curricula area	10%
One team project plan including goals, design, implementation, and evaluation. Choices listed above as objectives/competencies 5,6,7	30%

Michele Moran Zide, Ed.D.
Jane Murray, M.Ed.

ED 981 - Project in Educational Technology

Course Description:

Completion of a comprehensive project utilizing educational technology in elementary, special or secondary education. The projects developed and implemented are evaluated with classmates and faculty serving as a review board.

Target Population:

Shirley and Lunenburg Public School Teachers/Administrators

Course Objectives:

1. Participants will develop proficiency within the following areas: Word Processing, Teacher Utilities, Logo, Applesoft Basic, Math/Science software programs, and Language Arts/Social Studies software programs through attending scheduled seminar/workshops presented by college faculty and consultants.

2. Teachers/Administrators will refine and implement the system developed in Phase II for the management of the computer hardware, software and supplemental materials within the target schools.

3. A team of teachers will refine, implement and evaluate the use of the computer with the pupils of the target schools, utilizing the plan initiated in Phase II and interfacing with existing committees working towards similar goals.

4. A team of teachers will serve on the math/science and language arts/social studies curricula committees, evaluating teacher recommended software programs and determining how they integrate into each of these curriculum areas.

Course Requirements:

The participants will:

40% 1. attend: opening and closing seminar/workshop sessions and select eight of the ten other skill building sessions.
40% 2. purchase two blank discs for use in completing assignments given for each seminar/workshop attended.

10% 3. complete the Pre/Post Test Evaluation Instrument.

50% 4. serve on one Team, completing the team project, including: goals, design, implementation, evaluation and presentation in written and oral form following the outline provided. Team Projects are defined in objectives 2,3, and 4 above.
50% 5. meet with a Planning Team Member and/or college faculty for consultation on Team Projects.

Michele Moran Zide, Ed.D.
Patrice R. LeBlanc, M.A.

FSC SHIRLEY/LUNENBURG COLLABORATIVE PROJECT

Days: All sessions are on Thursdays

Times: 3:30-5:30 PM, Except 9/26 and 10/23 which are from 12:30 until 2:30 PM

Location: L indicates Lunenburg
S indicates Shirley

DATE	TOPIC	FACILITATOR
9/19	PROJECT/COURSE INFORMATION (S)	ZIDE
9/26	LITERACY AND TEAM PROJECTS (S)	ZIDE & LEBLANC
10/10	WORD PROCESSING (L)	MILLER-JACOBS
10/23	TEACHER UTILITIES (S)	MARION
11/7	LOGO (L)	MILLER-JACOBS
11/14	WORD PROCESSING (L)	MILLER-JACOBS
1/16	LOGO (L)	MILLER-JACOBS
2/6	BASIC (S)	FACULTY
3/6	MATH AND SCIENCE SOFTWARE (S)	HARRISON & TEAMS
4/10	BASIC (S)	FACULTY
5/8	LANGUAGE ARTS & SOCIAL STUDIES (L)	COLELLO & TEAMS
5/22	FINAL SEMINAR: PROJECTS AND EVAL (S)	ZIDE

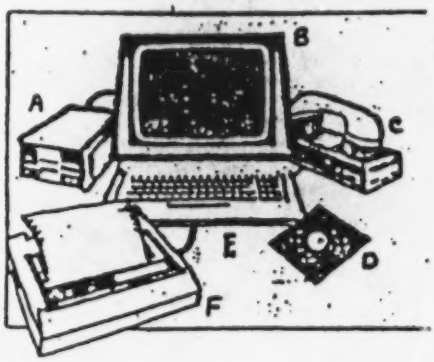
Year I pre-post test statistics

YEAR END EVALUATION

Name: Date

PART I

Match the words with the pictures.



Match the words with the pictures.

___1. Disk drive
___2. Keyboard/CPU
___3. Monitor/Crt
___4. Printer
___5. Modem
___6. Floppy disks

1. Disk drive
   Pre 79% Post 93%

2. Keyboard/CPU
   Pre 93% Post 100%

3. Monitor/CRT
   Pre 81% Post 88%

4. Printer
   Pre 74% Post 91%

5. Modem
   Pre 79% Post 88%

6. Floppy disks
   Pre 95% Post 95%

YEAR END EVALUATION

PART II

Mark each of the following questions with a response of 1 for "Strongly Agree", 2 for "Agree", 3 for "Disagree" and a 4 for "Strongly Disagree".

1. Bright and gifted students can benefit most by the use of microcomputers in the classroom. 1 2 3 4

Pre		Post	
	1-5%		1-10%
	2-38%		2-24%
	3-50%		3-52%
	4-8%		4-14%

2. Microcomputers will probably go the way of instructional television. 1 2 3 4

Pre		Post	
	1-3%		1-5%
	2-22%		2-39%
	3-56%		3-51%
	4-8%		4-5%

3. Developing computer literacy in today's students will prepare them for tomorrow's computerized world. 1 2 3 4

Pre		Post	
	1-33%		1-33%
	2-63%		2-64%
	3-3%		3-2%
	4-3%		4-0%

4. The integration of the microcomputer in the classroom will improve the quality of student/teacher interaction. 1 2 3 4

Pre		Post	
	1-11%		1-7%
	2-47%		2-34%
	3-36%		3-56%
	4-36%		4-2%

5. Microcomputers can be utilized in all areas of the curriculum 1 2 3 4

Pre		Post	
	1-8%		1-17%
	2-63%		2-66%
	3-24%		3-17%
	4-5%		4-0%

YEAR END EVALUATION

6. Massive infusion of computers in the classroom will eliminate the need for teachers. 1 2 3 4

Pre		Post	
	1-0%		1-0%
	2-0%		2-0%
	3-46%		3-12%
	4-54%		4-88%

7. With the integration of the microcomputer into the curriculum, students can learn the higher order reasoning skills of application, analysis, synthesis, and evaluation. 1 2 3 4

Pre		Post	
	1-14%		1-15%
	2-65%		2-77%
	3-22%		3-8%
	4-0%		4-0%

8. Microcomputers should be an integral part of the total school curriculum at all grade levels. 1 2 3 4

Pre		Post	
	1-5%		1-17%
	2-68%		2-64%
	3-24%		3-19%
	4-3%		4-0%

9. I support staff development efforts designed to upgrade teachers' competencies. 1 2 3 4

Pre		Post	
	1-39%		1-41%
	2-60%		2-56%
	3-3%		3-0%
	4-0%		4-2%

10. I am ready to integrate the microcomputer into my classroom or speciality area. 1 2 3 4

Pre		Post	
	1-15%		1-29%
	2-59%		2-53%
	3-21%		3-18%
	4-6%		4-0%

11. I feel we need to incorporate computers into the curriculum. 1 2 3 4

Pre		Post	
	1-26%		1-20%
	2-69%		2-73%
	3-3%		3-7%
	4-3%		4-0%

YEAR END EVALUATION

12. I think computers should be taught as a separate subject.
1 2 3 4

Pre		Post	
1-	11%	1-	5%
2-	44%	2-	38%
3-	39%	3-	50%
4-	6%	4-	8%

13. I feel peer observation is a valuable technique for professional development. 1 2 3 4

Pre		Post	
1-	3%	1-	8%
2-	89%	2-	72%
3-	3%	3-	21%
4-	5%	4-	0%

14. I don't feel I need to or want to put the effort into learning about computers. 1 2 3 4

Pre		Post	
1-	3%	1-	0%
2-	0%	2-	0%
3-	72%	3-	56%
4-	26%	4-	44%

15. If computers are going to be an important part of this education system then I feel that outside experts should be hired to join the system. 1 2 3 4

Pre		Post	
1-	3%	1-	2%
2-	45%	2-	29%
3-	53%	3-	63%
4-	0%	4-	5%

16. I think computers should be used as a "free time" activity in the classroom when student work is completed. 1 2 3 4

Pre		Post	
1-	5%	1-	3%
2-	41%	2-	43%
3-	51%	3-	43%
4-	3%	4-	13%

17. I would like other staff members to share their computer skills and successes with me. 1 2 3 4

Pre		Post	
1-	18%	1-	24%
2-	82%	2-	73%
3-	0%	3-	2%
4-	0%	4-	0%

YEAR END EVALUATION

PART III

Software

1. Drill and practice programs are:
   a. Sets of exercises that five student's practice in certain skills
   b. Structured lessons that teach math.
   c. Most useful to budding dentists.

Pre		Post	
a-	93%	a-	100%
b-	5%	b-	0%
c-	2%	c-	0%

2. Stimulation programs "stimulate"
   a. The inner workings of computers and are only used in advanced computer science classes.

   b. Just about anything from tossing a coin to flying a space shuttle.

   c. The DNA structure in genes.

Pre		Post	
a-	10%	a-	10%
b-	88%	b-	90%
c-	3%	c-	0%

3. Tutorial programs are
   a. Electronic flashcards that generate random problems

   b. Computer-generated lessons that reinforce individual student learning.

   c. Centers where students volunteer time to help other students.

Pre		Post	
a-	5%	a-	0%
b-	88%	b-	98%
c-	8%	c-	2%

4. Word processing, database management, and electronic spreadsheets are programs that would most likely appear
   a. On the space shuttle
   b. In the classroom
   c. In an office

Pre		Post	
a-	9%	a-	0%
b-	26%	b-	10%
c-	74%	c-	90%

YEAR END EVALUATION

PART IV

Teminology

5. The binary code
   a. uses ones and zeros to represent data.

   b. helped the allies unscramble coded messages from the Germans in WW II.

   c. consists of two sets of instructions, one for setting up computers and the other for operating them.

Pre		Post	
	a-71%		a-93%*
	b-2%		b-0%
	c-27%		c-7%

6. A programming error is called
   a. chip

   b. bug

   c. byte

Pre		Post	
	a-8%		a-0%
	b-90%		b-95%
	c-3%		c-5%

7. CAI is an acronym for
   a. Calculated Additional Input

   b. Computer Automated Interface

   c. Computer Aided Instruction

Pre		Post	
	a-8%		a-12%
	b-22%		b-17%
	c-70%		c-73%

8. A cursor is best described as
   a. a blinking light that indicates where the next character will appear on the screen.

   b. an indicator light on the keyboard that tells if the power is on or off.

   c. a person who keeps forgetting to press return after each program line.

Pre		Post	
	a-68%*		a-93%*
	b-24%		b-7%
	c-8%		c-0%

YEAR END EVALUATION

9. Information printed on paper (as opposed to information on the computer screen) is called
   a. Data

   b. Hard Copy

   c. Processed information (P.I.)

Pre		Post	
a-	15%	a-	21%
b-	51%*	b-	48%
c-	33%	c-	31%

10. Ram (Random Access Memory)
   a. is permanent and retains information indefinitely.

   b. can be used over and over again by multiple users.

   c. never forgets an ewe.

Pre		Post	
a-	36%	a-	17%
b-	58%	b-	83%
c-	6%	c-	0%

11. Mainframe computers
   a. are computers that are entirely self-contained in one unit.

   b. consist only of a terminal which is hooked up to other mainframe terminals.

   c. a larger and more powerful computer.

Pre		Post	
a-	33%	a-	35%
b-	50%	b-	28%
c-	17%	c-	38%

12. Input units refer to
   a. those devices through which information is entered into the computer.

   b. the number of digits or characters contained in the memory.

   c. items of information entered into a computer and stored in the memory.

Pre		Post	
a-	50%	a-	45%
b-	8%	b-	10%
c-	42%	c-	45%

YEAR END EVALUATION

PART V

Computers in Society

True or False

13. The biggest general use of computers is word processing.

Pre		Post	
T-76%		T-32%	
F-19%		F-68%	

14. The biggest educational use of computers is for individualized drill and practice in mathematics.

Pre		Post	
T-74%		T-17%	
F-21%		F-83%	

15. Computers in school affect both what is taught and how it is taught.

Pre		Post	
T-41%*		T-83%	
F-52%		F-17%	

16. In the next decade or two, home computers will be so common that nearly everyone will use them to shop, bank, vote, and respond to surveys.

Pre		Post	
T-24%*		T-88%	
F-69%		F-13%	

Year II Pre Test

Name: Date:

PART I LITERACY AND GENERAL KNOWLEDGE

Match the words with the pictures.

___1. Disk drive
___2. Keyboard/CPU
___3. Monitor/Crt
___4. Printer
___5. Modem
___6. Floppy disks

Circle the correct answer.

7. Drill and practice programs are:

   a. sets of exercises that give student's practice in certain skills

   b. structured lessons that teach math.

   c. teach new concepts.

8. CAI is an acronym for

   a. Calculated Additional Input

   b. Computer Automated Interface

   c. Computer Aided Instruction

9. Information printed on paper (as opposed to information on the computer screen) is called

   a. data

   b. hard copy

   c. processed information (P.I.)

10. Mainframe computers

   a. are computers that are entirely self-contained in one unit.

   b. consist only of a terminal which is hooked up to other mainframe terminals.

   c. a larger and more powerful computer.

PRE/POST TEST ASSESSMENT

PART II WORD PROCESSING

Fill in the blanks.

1. Word processing enables children to focus on their_____ rather than their_____.

2. Word processing helps children to see that good writing means good _____.

3. One major disadvantage of the Bank St. Writer is _____.

4. One major disadvantage of the Applewriter is _____.

5. The mailbag of Quill allows students to _____.

PART III TEACHER UTILITIES

Mark each of the following questions with a response of:
1 for "Strongly Agree", 2 for "Agree", 3 for "Disagree", and 4 for "Strongly Disagree".

1. Given computer availability, a grade book program would be a useful tool in managing student data for my classroom.

1 2 3 4

2. Crossword and word find programs are useful in reinforcing skills in any content area.

1 2 3 4

3. A data base program is of value to me when used with a word processing program.

1 2 3 4

4. I use the utility options in software programs frequently.

1 2 3 4

5. I found that the adaptability of teacher utility programs makes them personally useful in my classroom.

1 2 3 4

PRE/POST TEST ASSESSMENT

PART IV LOGO

Answer the questions below.

Using Terrapin Logo how can you tell the turtle to:

1. move straight ahead 50 steps without making a line?

_____

2. change the color of the line and the background?

_____

3. In working with young children why is "playing the turtle" important?

_____

4. How can you teach the turtle to make a rectangle 25 x 50?

_____

5. Give the main reason for using a discovery approach to Logo?

_____

PART V BASIC

Circle the correct response on the items below.

1. The first command which must be typed into the computer before beginning to type in a program is:

   a. CLEAR
   b. NEW
   c. SAVE
   d. BEGIN

2. Which of the following is NOT a legal variable name in BASIC?

   a. AB
   b. 7H
   c. LO
   d. F5

PRE/POST TEST ASSESSMENT

3. Which of the following is a legal BASIC LET statement for N-7 divided by X-3?

   a. LET Z= (N-7)/(X-3)
   b. LET Z= N-7/X-3
   c. LET N-7/X-3=Z
   d. LET (N-7)/(X-3)=Z

4. What would be the printed output of this BASIC program?

```
10 K=5
20 REM PRINT K
30 END
```

   a. PRINT K
   b. K
   c. 5
   d.

5. What would be the printed output of this BASIC program?

```
10 J=5
30K=15
40M=K+L/J
50 PRINT "THE ANSWER IS", M
60 M=0
70 END
```

   a. "THE ANSWER IS" 9
   b. THE ANSWER IS 9
   c. THE ANSWER IS 0
   d. THE ANSWER IS 21

6. In order to accept literal information from the keyboard, such as the statement "ALL TEACHERS", which of the following lines of BASIC programming is best?

   a. 30 INPUT A
   b. 30 INPUT LIT
   c. 30 INPUT A$
   d. 30 INPUT A

7. Which statement is used for an unconditional branch in BASIC?

   a. IF...THEN
   b. IF...GOTO
   c. GOTO
   d. IF...THEN...GOTO

PRE/POST TEST ASSESSMENT

8. Examine the following BASIC program.

```
10 K=0
20 K=K+4
30 PRINT K
40 IF K<40 THEN 20
50 PRINT "COUNTING COMPLETE"
60 END
```

What line will be executed when K=40?

a. 20
b. 30
c. 40
d. 50

9. Which is the legal BASIC statement for "A is less than or equal to B"?

a. A=<B
b. A=>B
c. A<=B
d. A<=B

10. Fill in the blanks with the letters to the following answers:

a. define the program
b. write and enter the program
c. debug the program
d. outline the solution

The proper order of steps to be done in developing a computer program would be _____,_____,_____and_____.

PART VI SOFTWARE IN THE CURRICULUM

Mark each of the following questions with a response of: 1 for "Strongly Agree", 2 for "Agree", 3 for "Disagree" and 4 for "Strongly Disagree".

1. Language arts software pieces are well integrated into the curriculum.

1 2 3 4

2. The best application of software programs in mathematics is drill and practice.

1 2 3 4

PRE/POST TEST ASSESSMENT

3. Use of science and social studies programs in the curriculum is a practical way to meet objectives.

1 2 3 4

4. I see word processing as an integral part of the language arts curriculum.

1 2 3 4

5. Using various software programs has facilitated the ongoing examination and revision of the curriculum.

1 2 3 4

PART VII ATTITUDES ABOUT COMPUTERS IN EDUCATION

Mark each of the following questions with a response of: 1 for "Strongly Agree", 2 for "Agree", 3 for "Disagree" and 4 for "Strongly Disagree".

1. Bright and gifted students can benefit most by the use of microcomputers in the classroom.

1 2 3 4

2. Developing computer literacy in today's students will prepare them for tomorrow's computerized world.

1 2 3 4

3. The integration of the microcomputer in the classroom will improve the quality of student/teacher interaction.

1 2 3 4

4. Microcomputers can be utilized in all areas of curriculum.

1 2 3 4

5. With the integration of the microcomputer into the curriculum, students can learn the higher order reasoning skills of application, analysis, synthesis, and evaluation.

1 2 3 4

6. Microcomputers should be an integral part of the total school curriculum at all grade levels.

1 2 3 4

7. I support staff development efforts designed to upgrade teachers' competencies.

1 2 3 4

PRE/POST TEST ASSESSMENT

8. I am ready to integrate the microcomputer into my classroom or specialty area.

1 2 3 4

9. I feel we need to incorporate computers into the curriculum.

1 2 3 4

10. I think computers should be taught as a separate subject.

1 2 3 4

11. I think computers should be used as a "free time" activity in the classroom when student work is completed.

1 2 3 4

12. I would like other staff members to share their computer skills and successes with me.

1 2 3 4

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Patrice LeBlanc, M.A.
Sandra Miller-Jacobs, Ed.D.
Gail Poitrast

PRE/POST TEST ASSESSMENT

VIII LEVEL OF COMPUTER TRAINING

Please check off the responses that apply to you.

1. I had training in computer technology PRIOR TO the 1984-1985 school year.

____yes _____no

If yes, please indicate type of training:

a. inservice training/work
___yes ___no

b. graduate course (s)
___yes ___no

c. other:_____

2. I had training in computer technology DURING the 1984-1985 school year through the Grant Project.

___yes ___no

3. I had training in computer technology DURING the summer of 1985.

___yes ___no

If yes, please indicate participation.

a. workshop(s) _____yes ____no

b. graduate course(s) ____yes ____no

c. other:_____

4. I am planning on participating in the Grant Project DURING the 1985-1986 school year. ____yes ____no

Please check those that apply: I will participate in:

____inservice workshops
____other workshop (s)
____team project
____course

5. I would like to participate in the Grant Project DURING the 1986-1987 school year.

____yes ___no

Thank you!